



THIRD QUARTER 2024

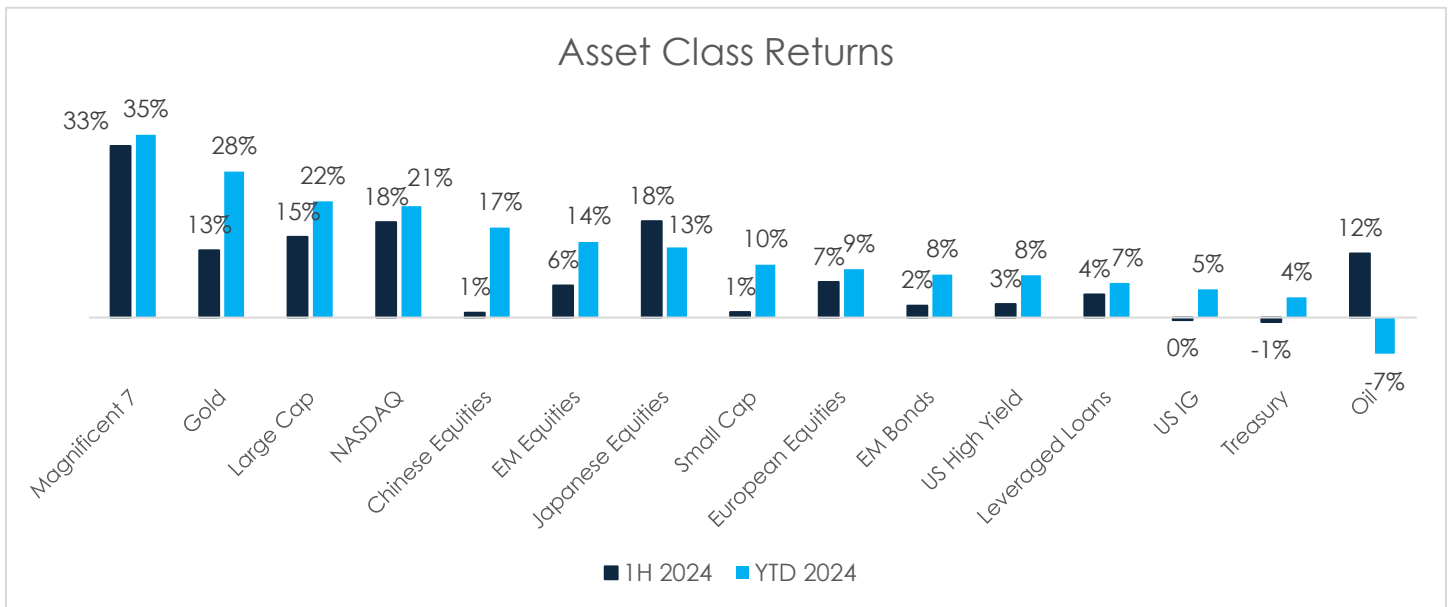
Market Update

As we conclude the third quarter of 2024, the economy continues to grow steadily, yet the balance of risks is shifting. Small cracks have begun to emerge in consumer sentiment, manufacturing, and within the labor market. Employment has now overtaken inflation as the Federal Reserve’s primary concern within its dual mandate as progress on disinflation has been satisfactory, thus paving the way for the Federal Reserve to join the global monetary easing cycle.

Despite some bumps along the way, the 2024 equity market rally remains intact. The healthy broadening out of the market beyond the mega-cap “Magnificent Seven” and “Fabulous Four” companies, has thankfully materialized. Risk assets were broadly supported by ten-year U.S. Treasury yields falling firmly below 4%, although interest rate volatility reached some of the highest levels of the year.

It was a quarter of tail-risk events: There were two assassination attempts on former president Donald Trump, Japanese stocks had the worst crash since 1987, before promptly rebounding, military conflict continued to escalate in the Middle East, and Hurricane Helene ravaged the Southeast, as one of the deadliest hurricanes to make landfall on the U.S. mainland in recent history. With the election around the corner in November, we anticipate elevated volatility persisting into the foreseeable future.

Large cap’s strongest start to the year since 1997



Source: Bloomberg as of Sept. 30, 2024.

Magnificent 7 = UBS Magnificent 7 Index; NASDAQ = NASDAQ Index; Large Cap = S&P 500 Index; Japanese Equities = Nikkei 225 Index; European Equities = Stoxx 600 Index; Small Cap = Russell 2000 Index; US High Yield = Bloomberg US Corporate High Yield Total Return Index; Leveraged Loans = Bank of America Leveraged Loan Index; Gold = Gold Spot Price; EM Equities = MSCI Emerging Markets Index; EM Bonds = Bloomberg Emerging Markets Aggregate Bond Index; US IG = Bloomberg U.S. Aggregate Index; Treasury = Bloomberg US Treasury Total Return Index; Chinese Equities = Shanghai Shenzhen CSI 300 Index; Oil = Brent Crude Oil Spot Price.

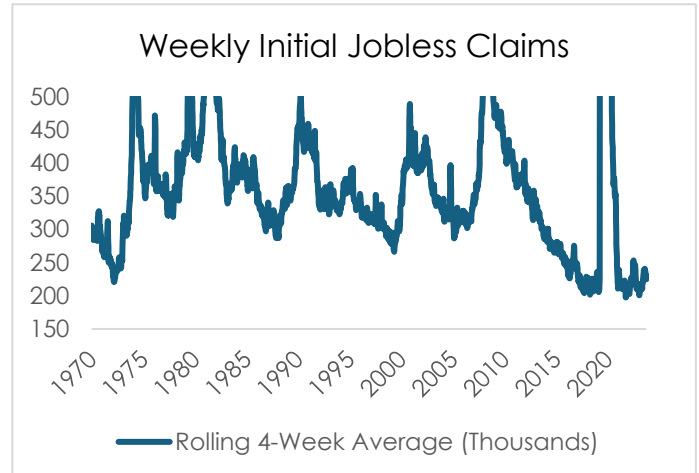
Economy

Unemployment has drifted higher in recent months, to 4.2% in August, versus the cycle low of 3.4% just over a year ago. Although there is no widespread discussion about layoffs, the labor market's advantage for workers has weakened, and the U.S. continues to produce fewer new jobs. Nonfarm payrolls increased by 142,000 jobs in August after a downwardly revised 89,000 rise in July, which was the smallest gain since an outright decline in December 2020. Additionally, the nature of the new jobs raises concerns, as government positions account for one in every five jobs created so far this year.

A general sense of unease has grown in the labor market, with a palpable tension between the old versus the new post-pandemic economy. The quits rate, or the percentage of people who voluntarily leave their jobs, was 1.9% in August, the lowest since June 2020. There is notable resistance to automation, with unions seeking to ban artificial intelligence (AI), leading to persistent strikes and upward pressure on wages. The International Longshoremen's Association (ILA) brought the first large-scale eastern dockworker strike in 47 years, effectively halting the movement of between 43%-49% of all U.S. imports and billions of dollars in trade monthly through the U.S. East Coast and Gulf ports. In addition to a 77% pay hike over the six-year contract, the union's primary demand concerns preventing certain automation at the ports. Notably, a survey conducted by Duke University this summer found that more than half (61%) of large U.S. firms plan to use AI within the next year to automate tasks previously done by employees.

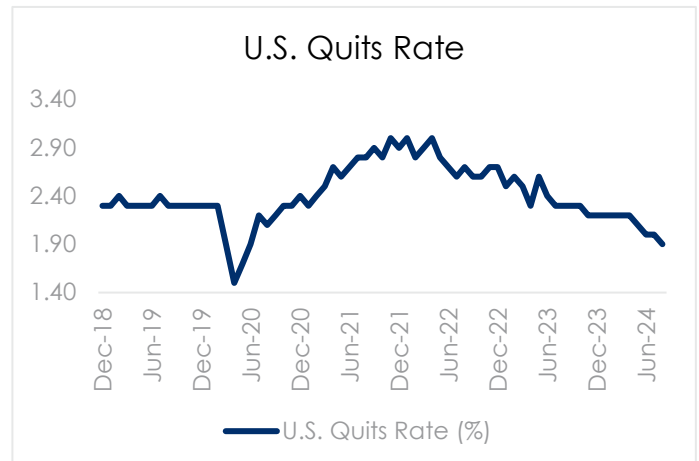
Where we find comfort is in the overall growth rate of the U.S. economy, recently revised higher yet again to a 2.6% annualized GDP growth rate expected for full-year 2024. Headline inflation (as measured by CPI) has come within striking distance of the Federal Reserve's target, now 2.5%. Similarly, we look to initial jobless claims, a leading economic indicator. Despite a prevailing sense of malaise among workers, initial jobless claims continue to decline, with the number of Americans filing new applications for unemployment benefits at a four-month low in September. At the same time, the observed rise in unemployment can be largely attributed to an increase in the labor supply, as we highlighted in our last update.

Fewer layoffs...



Source: Bloomberg as of Sept. 30, 2024.

...and fewer workers quitting



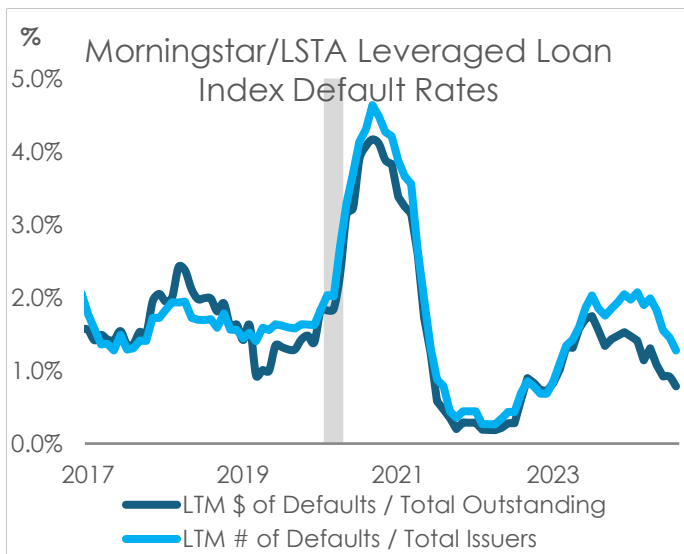
Source: Bloomberg as of Sept. 30, 2024.

Global equities

The S&P 500 finished the third quarter at yet another new all-time high. The corporate backdrop remained healthy, and S&P 500 companies saw 11.3% year-over-year earnings growth for the second quarter, the highest level since the final months of 2021. This performance might lead to beliefs that recessionary fears have been quelled, yet uncertainty still looms. Beyond the initial 50 basis point interest rate reduction in September, an additional eight 25 basis points cuts are expected by the end of 2025. A rapid easing cycle, typically a sign of economic weakness, feels at odds with predicted earnings growth of 15% for the S&P 500 in 2025, which would imply the highest earnings per share ever for the S&P 500 at roughly \$280/share.

Amidst the conflicting narratives, something we like to keep in mind is the following: there have been five instances in the past forty years where the Federal Reserve eased monetary policy without an imminent recession following. In those cases, the average return in the 12 months following the first cut was 17%. Secondly, over 80 years, the stock market has a flawless track record: whenever it hits a new all-time high, the economy has never been in a recession. Fortunately, we made a new all-time high 47 times in the first three quarters of 2024 and 6 times in September alone. Similarly, history would suggest that if we were in a recession, default rates should be climbing. Yet the Morningstar Leveraged Loan Default Index suggests defaults are actually decreasing in 2024. In August, the default rate was 0.8%, down from about 1.5% at the start of the year, and it's the lowest since December 2022.

Default rates are declining

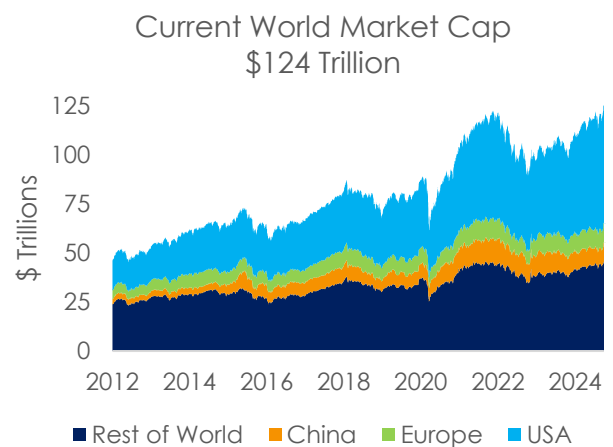


Source: Bloomberg as of Sept. 30, 2024.

Looking globally, U.S. economic exceptionalism is forecasted to continue as seen in 15% earnings growth expectations. The U.S. is home to some of the most innovative companies in the world, and they defy expectations on a regular basis. Of the \$124 trillion of global equity market cap, U.S. companies represent 48%, despite our population representing only 4% of the world population. Abroad, Europe remains in an era of secular stagnation. It faces numerous headwinds within the automotive sector, which represents nearly 7% of GDP, while also lacking the benefits of a booming technology sector. Farther east, following the unveiling of a massive stimulus package, Chinese equities, proxied by the CSI

300, gained 16% in the final week of the quarter—the biggest weekly gain since 2008. However, China's market volatility is significant, with the index showing an average annual intra-year correction of -30% and only a +1% annualized return since late 1992, compared to the S&P 500's 10.6% return. Furthermore, we find the opportunity less compelling due to a regulatory climate proven harsh to investors. We continue to prefer markets characterized by a high level of transparency and requirements for audited financial statements for public companies.

U.S. stock market represents nearly 50% of global market capitalization



Source: Bloomberg as of Sept. 30, 2024.

The global easing cycle begins

Despite a strong economy in the U.S., an initial 50 basis point interest rate cut in September served as a “recalibration”, or a safeguard against potential downturns. Most economists and market participants alike pin estimates of the neutral rate about 150 basis points below the current policy, implying that policy is still quite restrictive. Elsewhere, the European Central Bank (ECB), cut interest rates for the second time in September. China unveiled a massive stimulus package in September to jumpstart its beaten down economy. The People’s Bank of China (PBoC) announced an unprecedented policy involving three simultaneous rate cuts: a 20 basis point policy interest rate cut, a 50 basis point reduction in banks' reserve requirements, and a 50 basis point cut in existing mortgage interest rates, further accompanied by a liquidity injection into the stock market.

Falling interest rates come as welcome relief to issuers of debt, namely the Treasury; U.S. national debt has surged to over \$35 trillion and is increasing at a rate of about \$1 trillion every 6 months. 2024 will witness nearly a \$2 trillion deficit, despite record tax revenues. Interest payments alone will consume approximately 13% of the budget. Regardless of the outcome of the November election, what we know for certain is that neither candidate is running on a policy of austerity. Former President Donald Trump has pushed proposals to impose tariffs, cut taxes and restrict immigration, while Vice President Kamla Harris has proposed large tax increases and price-control measures. Outsized government spending is likely to continue under either administration. Bond markets are accepting this risk as they are not yet demanding compensation in the form of higher yields. In the third quarter, U.S. Treasury yields fell significantly across the board: two-year yields dropped by 115 basis points, five-year yields by 84 basis points, and ten-year yields by 62 basis points. Despite a brief uptick in August, credit spreads for Investment Grade and High Yield bonds remain well below their historical averages, standing at 95 basis points and 310 basis points, respectively, compared to the historical norms of 148 basis points and 520 basis points. Desire for credit compensation is low and fundamentals appear to be consistently healthy.

Looking ahead

As we approach the final months of the year, we are on the cusp of resolving the most significant uncertainty that has affected the market in 2024. The divergent potential policy paths post-election suggest that some investors may adopt a cautious stance as November 5th nears. We find reassurance in the strength of the U.S. economy. U.S. companies continue to perform well, although valuations are stretched, with a forward 12-month price-to-earnings multiple for the S&P 500 at 21.6 times.

It is not clear that a slowdown or recession is the next phase, given that we are not in a typical economic cycle but are instead transitioning to a post-pandemic normal. The ongoing adjustments include significant supply shocks in the labor market and an immigration boom which has exerted downward pressure on wage inflation. With inflation decreasing, growth remaining stable, and central banks easing monetary policy globally, a soft landing appears to have been achieved. As always, we encourage you to speak with a MassMutual financial professional to help you navigate your path forward.

Kelly Kowalski, CFA, Bronwyn Tierney, CFA, and Kevin Schultz

MassMutual Investment Management

Government bond yields	YE 2021	YE 2023	9/30/ 2024	Change YTD (bps)
6-Month U.S. Treasury Yield	0.18%	5.25%	4.40%	-84 bps
2-Year Treasury Yield	0.73%	4.25%	3.64%	-61 bps
5-Year Treasury Yield	1.26%	3.85%	3.56%	-29 bps
10-Year Treasury Yield	1.51%	3.88%	3.78%	-10 bps
30-Year Treasury Yield	1.90%	4.03%	4.12%	+9 bps
Japan's 10-Year Government Bond Yield	0.07%	0.61%	0.85%	+25 bps
Germany's 10-Year Government Bond Yield	-0.18%	2.02%	2.12%	+10 bps
U.K.'s 10-Year Government Bond Yield	0.97%	3.53%	4.00%	+47 bps

Source: Bloomberg as of Sept. 30, 2024.

Please see important disclosures on the following page.

Disclosures

Market Indices have been provided for informational purposes only; they are unmanaged and reflect no fees or expenses. Individuals cannot invest directly in an index.

Description
The UBS Magnificent 7 Index tracks a group of 7 of the largest mega cap tech stocks listed in the US. The stocks mirror their respective S&P 500 weight reweighted pro-rata.
The NASDAQ Composite Index is a broad-based capitalization-weighted index of stocks in all three NASDAQ tiers: Global Select, Global Market and Capital Market.
The S&P 500 Index is widely regarded as the best single gauge of large-cap U.S. equities and serves as the foundation for a wide range of investment products. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization.
The Nikkei-225 Stock Average is a price-weighted average of 225 top-rated Japanese companies listed in the First Section of the Tokyo Stock Exchange. The Nikkei Stock Average was first published on May 16, 1949, where the average price was ¥176.21 with a divisor of 225.
The STOXX Europe 600 Index is derived from the STOXX Europe Total Market Index (TMI) and is a subset of the STOXX Global 1800 Index. With a fixed number of 600 components, the STOXX Europe 600 Index represents large, mid and small capitalization companies across 17 countries of the European region.
The Russell 2000 Index is comprised of the smallest 2000 companies in the Russell 3000 Index, representing approximately 8% of the Russell 3000 total market capitalization. The real-time value is calculated with a base value of 135.00 as of December 31, 1986. The end-of-day value is calculated with a base value of 100.00 as of December 29, 1978.
The Bloomberg US Corporate High Yield Bond Index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Bloomberg EM country definition, are excluded
The Bank of America Leveraged Loan Index is designed to measure the performance of the 100 largest facilities in the US leveraged loan market. Index constituents are market-value weighted, subject to a single loan facility weight cap of 2%.
Gold Spot Price is quoted as dollars per Troy Ounce.
The MSCI EM (Emerging Markets) Index is a free-float weighted equity index that captures large and mid-cap representation across Emerging Markets (EM) countries. The index covers approximately 85% of the free float-adjusted market capitalization in each country.
Standard and Poor's Midcap 400 Index is a capitalization-weighted index which measures the performance of the mid-range sector of the U.S. stock market. The index was developed with a base level of 100 as of December 31, 1990.
The Bloomberg Emerging Markets Hard Currency Aggregate Index is a flagship hard currency Emerging Markets debt benchmark that includes USD-denominated debt from sovereign, quasi-sovereign, and corporate EM issuers.
The Bloomberg USAgg Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate pass-throughs), ABS and CMBS (agency and non-agency).
The Bloomberg US Treasury Index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. Treasury bills are excluded by the maturity constraint but are part of a separate Short Treasury Index. STRIPS are excluded from the index because their inclusion would result in double-counting.
The CSI 300 Index is a free-float weighted index that consists of 300 A-share stocks listed on the Shanghai or Shenzhen Stock Exchanges. Index has a base level of 1000 on 12/31/2004. * Due to our agreement with CSI, shares in the index is restricted, please visit SSIS<go> for more information and access. This ticker holds prices fed from Shenzhen Stock Exchange.
Oil Spot Price is quoted as dollars per barrel for export quality Brent crude oil.

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